

CLAIMS

Having described my invention, I claim:

1. A mounting head allowing a user to adjustably mount an object to a rod, comprising:
 - a. a cylindrical body, including
 - I. a hollow interior;
 - ii. a first end;
 - iii. a second end;
 - iv. a long axis;
 - v. a rod opening passing completely through said cylindrical body in a direction which is approximately transverse to said long axis;
 - vi. a threaded receiver proximate said first end;
 - vii. a contraction proximate said second end;
 - viii. an opening proximate said second end;
 - b. a ball, located within said hollow interior of said cylinder, proximate said contraction, wherein said ball has a stem extending out said opening;
 - c. a ball clamp, located within said hollow interior of said cylinder, proximate said contraction;
 - d. object mounting means attached to said stem for mounting said object to said stem; and
 - e. an adjustment knob, having a threaded portion sized to engage said threaded receiver in said cylindrical body, so that if said user places said rod through said rod opening and between said ball clamp and said threaded portion, and then threads said threaded portion of said adjustment knob into said threaded receiver, said contraction will be

drawn against said ball, thereby locking said ball in place, and said rod will be clamped between said ball clamp and said threaded portion, thereby clamping said mounting head to said rod.

2. A mounting head as recited in claim 1, further comprising a bar clamp, located within said hollow interior of said cylinder between said ball clamp and said threaded portion of said adjustment knob, so that if said user places said rod through said rod opening and between said ball clamp and said bar clamp, and then threads said threaded portion of said adjustment knob into said threaded receiver, said contraction will be drawn against said ball, thereby locking said ball in place, and said rod will be clamped between said ball clamp and said bar clamp, thereby clamping said mounting head to said rod.
3. A mounting head as recited in claim 2, further comprising a washer located between said bar clamp and said threaded portion of said adjustment knob.

4. A mounting head as recited in claim 1, wherein said object mounting means comprises:
 - a. a mounting plate having a first vee lock interface, a through hole, and a separate threaded hole;
 - b. wherein said stem on said ball has a second vee lock interface shaped to lock into said first vee lock interface on said mounting plate;
 - c. a mounting screw, passing through said ball, through said through hole on said mounting plate, and into said object; and
 - d. a dog screw passing through said separate threaded hole and into said object.
5. A mounting head as recited in claim 1, wherein:
 - a. said ball clamp has a first end and a second end;
 - b. said first end of said ball clamp opens into a ball receiver shaped to receive said ball;
and
 - c. said second end of said ball clamp opens into a rod receiver shaped to receive said rod.
6. A mounting head as recited in claim 2, wherein:
 - a. said ball clamp has a first end and a second end;
 - b. said first end of said ball clamp opens into a ball receiver shaped to receive said ball;
and
 - c. said second end of said ball clamp opens into a rod receiver shaped to receive said rod.

7. A mounting head as recited in claim 6, wherein:
 - a. said bar clamp has a first end and a second end; and
 - b. said first end of said bar clamp opens into a rod receiver shaped to receive said rod.
8. A mounting head as recited in claim 7, wherein:
 - a. said ball clamp includes a flat on said second end of said ball clamp;
 - b. said bar clamp includes a flat on said first end of said bar clamp positioned to bear against said flat on said ball clamp.
9. A mounting head as recited in claim 3 wherein said washer is a belleville washer.
10. A mounting head as recited in claim 1, wherein said opening proximate said second end of said body includes an access notch.
11. A mounting head as recited in claim 2, wherein said opening proximate said second end of said body includes an access notch.
12. A mounting head as recited in claim 3, wherein said opening proximate said second end of said body includes an access notch.

13. A mounting head as recited in claim 4, wherein said body further comprises a wrench access hole passing into said hollow interior, positioned to allow access to said mounting screw from outside said body when said ball is within said body.
14. A mounting head as recited in claim 2, wherein said object mounting means comprises:
 - a. a mounting plate having a first vee lock interface, a through hole, and a separate threaded hole;
 - b. wherein said stem on said ball has a second vee lock interface shaped to lock into said first vee lock interface on said mounting plate;
 - c. a mounting screw, passing through said ball, through said through hole on said mounting plate, and into said object; and
 - d. a dog screw passing through said separate threaded hole and into said object.
15. A mounting head as recited in claim 3, wherein said object mounting means comprises:
 - a. a mounting plate having a first vee lock interface, a through hole, and a separate threaded hole;
 - b. wherein said stem on said ball has a second vee lock interface shaped to lock into said first vee lock interface on said mounting plate;
 - c. a mounting screw, passing through said ball, through said through hole on said mounting plate, and into said object; and
 - d. a dog screw passing through said separate threaded hole and into said object.

16. A mounting head as recited in claim 5, wherein said object mounting means comprises:
- a. a mounting plate having a first vee lock interface, a through hole, and a separate threaded hole;
 - b. wherein said stem on said ball has a second vee lock interface shaped to lock into said first vee lock interface on said mounting plate;
 - c. a mounting screw, passing through said ball, through said through hole on said mounting plate, and into said object; and
 - d. a dog screw passing through said separate threaded hole and into said object.
17. A mounting head as recited in claim 6, wherein said object mounting means comprises:
- a. a mounting plate having a first vee lock interface, a through hole, and a separate threaded hole;
 - b. wherein said stem on said ball has a second vee lock interface shaped to lock into said first vee lock interface on said mounting plate;
 - c. a mounting screw, passing through said ball, through said through hole on said mounting plate, and into said object; and
 - d. a dog screw passing through said separate threaded hole and into said object.

18. A mounting head as recited in claim 7, wherein said object mounting means comprises:
- a. a mounting plate having a first vee lock interface, a through hole, and a separate threaded hole;
 - b. wherein said stem on said ball has a second vee lock interface shaped to lock into said first vee lock interface on said mounting plate;
 - c. a mounting screw, passing through said ball, through said through hole on said mounting plate, and into said object; and
 - d. a dog screw passing through said separate threaded hole and into said object.
19. A mounting head as recited in claim 8, wherein said object mounting means comprises:
- a. a mounting plate having a first vee lock interface, a through hole, and a separate threaded hole;
 - b. wherein said stem on said ball has a second vee lock interface shaped to lock into said first vee lock interface on said mounting plate;
 - c. a mounting screw, passing through said ball, through said through hole on said mounting plate, and into said object; and
 - d. a dog screw passing through said separate threaded hole and into said object.

20. A mounting head as recited in claim 9, wherein said object mounting means comprises:
- a. a mounting plate having a first vee lock interface, a through hole, and a separate threaded hole;
 - b. wherein said stem on said ball has a second vee lock interface shaped to lock into said first vee lock interface on said mounting plate;
 - c. a mounting screw, passing through said ball, through said through hole on said mounting plate, and into said object; and
 - d. a dog screw passing through said separate threaded hole and into said object.